

REMARKS

Applicant requests favorable consideration and allowance of the subject application in view of the preceding amendments and the following remarks

Claims 39 and 41-50 are presented for consideration. Claim 39 is the sole independent claim. Claims 1, 3, 5-14, 26-38 and 40 have been canceled without prejudice or disclaimer. Claim 39 has been amended to clarify features of the subject invention, while claims 41-50 have been added to recite additional features of the subject invention. Support for these changes and claims can be found in the original application, as filed. Therefore, no new matter has been added.

Independent claim 39 recites a pipe structure that includes a double pipe having a resin inner pipe and a resin outer pipe covering an outside of the inner pipe and a discharge mechanism for discharging fluid in a space between the inner pipe and the outer pipe. The double pipe is in a chamber, the pressure in a space between the chamber and the outer pipe being less than pressure in a space between the inner pipe and the outer pipe, and the pressure in the space between the inner pipe and the outer pipe is greater than the pressure in the chamber and less than pressure in the inner pipe.

Applicant submits that such features of the present invention are not taught or suggested by the cited art. For example, U.S. Patent No. 5,611,655 to Fukasawa et al. discloses a double pipe structure arranged between a vacuum process chamber and a gas box, as discussed at column 17, line 59. The Fukasawa et al. also discusses an apparatus obtained by combining a plurality of vacuum process chambers, which are installed in an expensive clean room. Generally speaking, however, the inside of the clean room is not in a vacuum atmosphere.

Applicant submits that the Fukasawa et al. patent does not teach or suggest the salient features of Applicant's present invention, as recited in independent claim 39, in which a pressure (P3) in a space between a chamber and an outer pipe is less than a pressure (P2) in the space between the inner pipe and the outer pipe, and the pressure (P2) in the space between the inner pipe and the outer pipe is greater than the pressure (P3) in the chamber and the less than the pressure (P1) in the inner pipe. Thus, in the present invention, the pressure is such that from (i) the inside of the inner pipe to (ii) the space between the inner pipe and the outer pipe to (iii) the space between the chamber and the outer pipe, the relationships $P1 > P2 > P3$ hold.

In turn, the arrangement of the present invention can be achieved by having the space between the chamber and the outer pipe and the space between the inner pipe and the outer pipe be in a highly vacuum atmosphere, with a small difference between the pressures P2 and P3.

In contrast to the present invention recited in independent claim 39, the pressures in the respective spaces are set to be $P1 > P3 > P2$, in conventional double pipe structures, as well as in the arrangement taught in the Fukasawa et al. patent.

Applicant submits, therefore, that the cited art does not teach or suggest the salient features of Applicant's present invention, as recited in independent claim 39. Accordingly, Applicant submits that the present invention, as recited in independent claim 39, is patentably defined over the cited art.

Dependent claims 41-50 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent claim 39. Individual consideration of these dependent claims is requested.

Applicant submits that the instant application is in condition for allowance. Favorable reconsideration and an early Notice of Allowance are requested.

Applicant's undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Steven E. Warner", is written over a horizontal line.

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